Content available at: https://www.ipinnovative.com/open-access-journals

Journal of Contemporary Orthodontics

Journal homepage: https://www.jco-ios.org/

Original Research Article

Knowledge and awareness on early skeletal malocclusion and treatment among general dentists, and non-orthodontic specialists: A questionnaire study

Sivapriya Udayakumar[1]*, Sainath Muthiah Chidambaram[2], Navaneetha Nambi[2], Karthik Saravanan[2], Elamvaluthi Mani[2]

[1]The Tamilnadu Dr. M.G.R Medical University, Chennai, Tamil Nadu, India.
[2]Madha Dental College & Hospital, Sikkarayapuram, Tamil Nadu, India.

Abstract

Introduction: General dental practitioners and other non-orthodontic specialists must take on the role of orthodontic health educators. It is their responsibility to recognize, diagnose, and manage or refer abnormalities in developing dentition. Therefore, a strong understanding of orthodontics is essential for providing proper counseling and referrals.
Aim and Objective: This study determines and evaluates the knowledge and attitude of general dentists and non-orthodontic specialists towards early orthodontic treatment. The study objectively assesses the knowledge of orthodontic treatment among general dentists and non-orthodontic specialists and rigorously compares the knowledge of orthodontic treatment between the two groups.
Materials and Methods: The study included 308 dental professionals divided into three groups: general practitioners, non-orthodontic postgraduate students, and non-orthodontic specialists. The questionnaire had 20 closed-ended, multiple-choice questions, covering general information and participants' attitudes and awareness of orthodontic principles and practices.
Results: The study emphasizes the necessity for improved education on orthodontic treatment concepts for general dentists and non-orthodontic specialists.
Conclusion: Practitioners must participate in continuing education programs to stay updated on the latest developments in orthodontic diagnosis, functional appliance therapy, recognition and identification of dentofacial deformities in growing children and adults, intervention, application of functional jaw orthopedics, and implementing retention protocols after orthodontic treatment. These programs are crucial for ensuring that practitioners provide meticulous care to their patients.

Keywords: Early orthodontic treatment, General dentist, Knowledge, Non-orthodontic specialist, Questionnaire.

Received: 16-05-2024; **Accepted:** 17-07-2024; **Available Online**: 27-05-2025

1. Introduction

Malocclusion is a significant oral health issue that is highly prevalent globally. It refers to the abnormal positioning of the teeth when the jaws are closed. According to the World Health Organization, malocclusion is considered the third most important oral health problem. Even though it is not a disease and not life-threatening, it is a major contributing factor to dental cavities, temporomandibular disorders, and gum diseases. Malocclusion also impairs chewing function, affecting nutrition and overall health.

Malocclusion can lead to social stigma, embarrassment, rejection, and psychological disorders. Early diagnosis and treatment can help achieve proper dental alignment and aesthetics. Early intervention is crucial to prevent short-term and long-term complications.[1-2]

Self-awareness can prompt a patient to visit the dentist, but general dentists and specialists other than orthodontists may also come across patients in need of orthodontic treatment. Dentists have the responsibility to identify, diagnose, and manage or refer any issues in the developing teeth. It is largely up to dentists without specialized orthodontic knowledge to educate the patient. Their role is

*Corresponding author: Sivapriya Udayakumar
Email: pinkyudayakumar25@gmail.com

https://doi.org/10.18231/j.jco.2025.032

crucial in identifying patients who require dental occlusion correction or other orthodontic treatments. Therefore, general dentists and non-orthodontic specialists must have a sufficient level of orthodontic knowledge for proper counseling and referral.[3-4]

A comprehensive approach to patient education is crucial for helping individuals understand the importance of orthodontic treatment.[5] General dental practitioners and other non-orthodontic specialists can serve as valuable orthodontic health educators. Furthermore, the combined use of multiple therapies, through interdisciplinary cooperation, leads to improved and long-lasting outcomes. As a result, this study aims to assess and evaluate the knowledge and attitudes of general dentists and non-orthodontic specialists towards early orthodontic treatment. The study's objective is to gauge the understanding of orthodontic treatment among general dentists and non-orthodontic specialists and to compare their knowledge in this area.

2. Materials and Methods

This study was a cross-sectional survey involving general practitioners, postgraduate students, and non-orthodontic specialists. Ethical approval was obtained, and the survey was conducted from October to December 2023 using Google Forms. Informed consent was obtained from participants, and no personal identification was requested.

The study involved 300 participants in three groups: Group I (general practitioners), Group II (non-orthodontic postgraduate students), and Group III (non-orthodontic specialists). The questionnaire included 20 multiple-choice questions. The first five gathered general information, while the next fifteen assessed attitudes and awareness of orthodontic principles and practices. The frequency of correct/incorrect responses assessed knowledge and attitudes towards orthodontics and their correlation with different variables.

2.1. Statistical analysis

Scores were calculated based on participants' responses, and statistical analysis was done using SPSS software (version 23.0; IBM, Armonk, NY, USA).

3. Results

The survey consisted of 20 closed-ended, multiple-choice questions and was completed by 308 dental professionals.

Age: Among the participants, 56.2% were aged 20-30, 37.5% were aged 31-40, 7.1% were aged 41-50, and 1% were over 50. Of the 308 professionals, 57.1% were female and 42.9% were male.

Groups: **Figure 1** shows that Group I comprised 46.4% general practitioners, Group II had 29.5% non-orthodontic postgraduate students, and Group III had 24% non-orthodontic specialists.

49.7% of the dental professionals had 1-5 years of clinical experience.

32.1% of the dental professionals were associated with academic institutions, while 69.7% were not.

Table 2 displays the responses to the questionnaire by general practitioners, postgraduate students from other departments, and non-orthodontic specialists.

3.1. Knowledge domain

The frequency analysis of the questions in the knowledge domain is presented in **Table 2**. Non-orthodontic specialists had a higher mean knowledge score (7.5) compared to general dentists (6.4) and other department postgraduate students (5.9). The overall prevalence of knowledge was 65% for general dentists, 60% for other department postgraduates, and 73% for non-orthodontic specialists (**Figure 2**).

3.2. Attitude domain

In this study, clinical scenarios were used to evaluate participants' attitudes. The frequency analysis of the different questions related to attitude is presented in **Table 4**. The study also analyzed the mean knowledge score for different groups, finding that non-orthodontic specialists had a higher mean awareness score. Overall, all groups showed a favorable attitude towards handling the clinical scenarios (**Figure 2**).

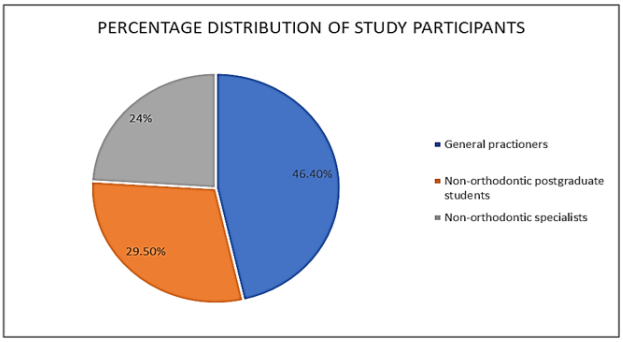

Figure 1; Percentage distribution of the study participants

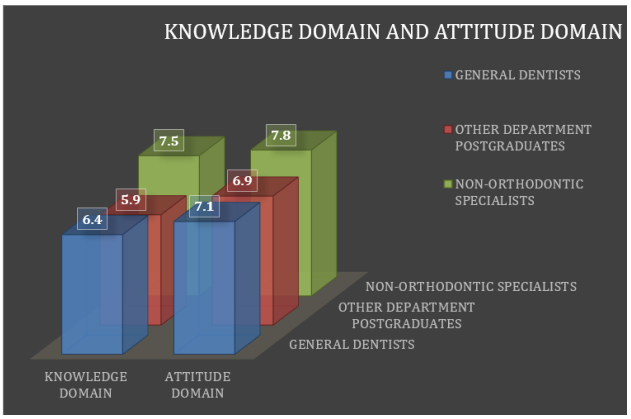

Figure 2: Knowledge and attitude domain

Table 1: Questionnaire with 20 closed-ended questions

S.no	Questionnaire items	Choices			
1	Age	21-30 years of age	31-40 years of age	41-50 years of age	>50 years of age
2	Gender	Male		Female	
3	Educational Qualification	General Dentist	Postgraduate students (other departments)		Non orthodontic specialists
4	Years of clinical experience	1-5 years	6-10 years	11-15 years	>15 years
5	Are you associated with any academic institutions?	Yes		No	
6	At what age will you suggest orthodontic treatment for a child?	<6 years	7-9 years	10-14 years	>15 years
7	Which statement is true about Functional Appliances	Functional Appliances are utilized for Dental Correction.	Functional Appliances are utilized to enhance and redirect the growth.	Functional Appliances result in rapid correction of malocclusion	Functional Appliances can be given to adults also.
8	At what stage would functional appliances give the best results?	Pre pubertal Growth Spurt	Pubertal Growth Spurt	Post Pubertal Growth Spurt	All of the above
9	Are Functional Appliances and Orthopaedic Appliances the same?	Yes	No	Maybe	Don’t Know
10	An 8-year-old female patient reports a reverse overjet of - 4 mm. What will be your choice of treatment?	Fixed Mechanotherapy	Fixed Functional Appliances	Orthopaedic Appliances	Surgical Options
11	For what malocclusions are functional appliances utilized?	Class II	Class I With Open Bite	Class I With Crowding	Class I With Spacing
12	Head Gears are given at what age?	< 6 years	7- 9 years	9- 11 years	> 12 years
13	Can you use headgear along with functional appliances?	Yes		No	
14	A 7-year-old female patient presents with developing crossbite at about 21, what will be your choice of treatment?	Reverse Pull Headgear	Twin Block	Catlan's Appliance	Surgical Options
15	How long do you recommend functional appliances?	< 6 months	6-9 months	9- 12 months	> 12 months
16	Retention Phase post functional therapy	2-3 months	4- 6 months	7- 9 months	No retention needed

17	A 10-year-old male patient reports an increased overjet of 8 mm with a Class II Molar relationship, Convex Profile, and also lip trap. What will be your choice of treatment?	Fixed Mechanotherapy	Removable Functional Appliances	Wait for all permanents to erupt	Self-correcting Anomaly
18	Functional appliances in Skeletal Class II are indicated when	Maxilla is Normal, Mandible is Retrognathic	Maxilla is Prognathic	Maxilla is Retrognathic in a Mature Individual	When severe crowding is present
19	A 10-year-old male patient reports large midline diastema and permanent canines are not erupted. What will be your choice of treatment?	No treatment now	Fixed Functional Appliances	Removable Appliances	Fixed Mechanotherapy
20	For best results in Class III Malocclusion correction, the orthopedic appliance should be worn at least:	12 - 16 hours a day	8 - 10 hours a day	5- 8 hours a day	Throughout night

Table 2: Responses on questions by the study participants

Questionnaire	**Responses**	**Frequency (N)**	**Frequency percentage (%)**
At what age will you suggest orthodontic treatment for a child?	<6 years	22	7.1%
	7-9 years	70	22.7%
	10-14 years	172	55.8%
	>15 years	44	14.3%
Which statement is true about Functional Appliances	Functional Appliances are utilized for Dental Correction.	31	10.1%
	Functional Appliances are utilized to enhance and redirect the growth.	231	75%
	Functional Appliances result in rapid correction of malocclusion	38	12.3%
	Functional appliances can be given to adults also	8	2.6%
At what stage would functional appliances give the best results?	Pre-pubertal growth spurt	101	32.8%
	pubertal growth spurt	121	39.3%
	Post Pubertal Growth Spurt	33	10.7%
	All of the above	53	17.2%
Are Functional Appliances and Orthopaedic Appliances the same?	Yes	46	14.9%
	No	164	53.2%
	Maybe	81	26.3%
	Don't know	17	5.5%
A 8-Year-old female patient reports with a reverse overjet of - 4 mm. What will be your choice of treatment?	Fixed Mechanotherapy	34	11%
	Fixed Functional Appliances	150	48.7%
	Orthopaedic Appliances	110	35.7%
	Surgical Options	14	4.5%
For what malocclusions are functional appliances utilized?	Class II	150	48.7%
	Class I With Open Bite	90	29.2%
	Class I With Crowding	46	14.9%

	Class I With Spacing	22	7.1%
Head Gears are given at what age?	< 6 years	41	13.3%
	7- 9 years	112	36.4%
	9- 11 years	123	39.9%
	> 12 years	32	10.4%
Can you use headgear along with functional appliances?	Yes	227	77.5%
	No	66	22.5%
A 7-year-old female patient presents with developing crossbite at about 21, what will be your choice of treatment?	Reverse Pull Headgear	43	14%
	Twin Block	76	24.7%
	Catlan's Appliance	182	59.1%
	Surgical Options	7	2.3%
How long do you recommend functional appliances?	< 6 months	46	14.9%
	6-9 months	112	36.4%
	9- 12 months	122	39.6%
	> 12 months	28	9.1%
Retention Phase post functional therapy	2-3 months	34	11%
	4- 6 months	127	41.2%
	7- 9 months	97	31.5%
	No retention needed	50	16.2%
A 10-year-old male patient reports an increased overjet of 8 mm with a Class II Molar relationship, Convex Profile, and also lip trap. What will be your choice of treatment?	Fixed Mechanotherapy	92	29.9%
	Removable Functional Appliances	114	37%
	Wait for all permanents to erupt	83	26.9%
	Self-correcting Anomaly	19	6.2%
Functional appliances in Skeletal Class II are indicated when	Maxilla is Normal, Mandible is Retrognathic	131	42.5%
	Maxilla is Prognathic	101	32.8%
	Maxilla is Retrognathic in a Mature Individual	48	15.6%
	When severe crowding is present	28	9.1%
A 10-year-old male patient reports large midline diastema and permanent canines have not erupted. What will be your choice of treatment?	No treatment now	198	64.3%
	Fixed Functional Appliances	55	17.9%
	Removable Appliances	37	12%
	Fixed Mechanotherapy	18	5.8%
For best results in Class III Malocclusion correction, the orthopedic appliance should be worn at least :	12 - 16 hours a day	128	41.6%
	8 - 10 hours a day	87	28.2%
	5- 8 hours a day	30	9.7%
	Throughout night	63	20.5

Table 3: Knowledge domain

Questionnaire items	**Responses**	**General Dentist (N=143)**	**Post graduate (other departments) (N=91)**	**Non-orthodontic specialist (n=74)**	**p-value**
At what age will you suggest orthodontic treatment for a child?	< 6 years	15	0	11	0.001*
	7- 9 years	23	10	5	
	10- 14 years	95	52	55	
	> 15 years	10	29	10	
Which statement is true about Functional Appliances	Functional Appliances are utilized for Dental Correction	25	5	5	0.000*
	Functional Appliances are utilized to enhance and redirect the growth.	65	60	55	

	Functional Appliances results in rapid correction of malocclusion	20	17	11	
	Functional Appliances can be given for adults also.	33	9	10	
At what stage would functional appliances give the best results?	Pre-Pubertal Growth Spurt	100	36	55	0.03*
	Pubertal Growth Spurt	10	25	10	
	Post Pubertal Growth Spurt	13	15	5	
	All of the above	11	15	11	
Are Functional Appliances and Orthopaedic Appliances the same ?	Yes	25	39	45	0.001*
	No	65	22	16	
	Maybe	20	22	5	
	Don't know	33	10	5	
For what malocclusions are functional appliances utilized?	Class II	95	45	46	0.000*
	Class I with Open Bite	23	22	15	
	Class I with Crowding	15	11	5	
	class I with spacing	10	13	5	
Head Gears are given at what age?	< 6 years	92	46	49	0.043*
	7- 9 years	23	13	11	
	9- 11 years	18	12	5	
	> 12 years	10	19	5	
Can you use headgear along with functional appliances?	Yes	105	46	61	0.001*
	No	39	41	10	
How long do you recommend functional appliances?	< 6 months	85	46	11	0.000
	6-9 months	33	13	50	
	9- 12 months	15	12	9	
	> 2 months	10	19	1	
Retention Phase post functional therapy	2-3 months	11	23	11	0.049
	4- 6 months	120	46	50	
	7- 9 months	5	12	9	
	No retention needed	7	10	1	
Functional appliances in Skeletal Class II are indicated when	Maxilla is Normal, Mandible is retrognathic	10	10	14	0.01
	Maxilla is Prognathic	100	46	55	
	Maxilla is Retrognathic in a Mature Individual	13	5	2	
	When severe crowding is present	11	30	0	
For best results in class III Malocclusion correction, the orthopedic appliance should be worn at least	12 - 16 hours a day	10	13	5	0.01
	8 - 10 hours a day	9	25	3	
	5- 8 hours a day	1	22	9	
	Throughout night	122	31	55	

Table 4: Attitude domain

Questionnaire items	Responses	General dentist (N=143)	Post graduate (other departments) (N=91)	Non-orthodontic specialist (n=74)	p value
An 8-year-old female patient reports a reverse overjet of - 4 mm. What will be your choice of treatment?	Fixed Mechanotherapy	15	11	9	0.001*
	Fixed Functional Appliances	23	50	55	
	Orthopaedic Appliances	95	12	3	
	Surgical Options	10	18	5	
A 7-year-old female patient presents with developing crossbite at about 21, what will be your choice of treatment?	Reverse Pull Headgear	25	13	50	0.000*
	Twin Block	65	25	2	
	Surgical Options	20	22	8	
	Catlan's Appliance	33	31	11	
A 10-year-old male patient reports an increased overjet of 8 mm with a Class II Molar relationship, Convex Profile, and also lip trap. What will be your choice of treatment?	Removable Functional Appliances	100	15	9	0.03*
	Fixed Mechanotherapy	10	29	10	
	Wait for all permanents to erupt	13	33	35	
	Self -correcting Anomaly	11	14	16	
A 10-year-old male patient reports with large midline diastema and permanent canines do not erupt. What will be your choice of treatment?	No treatment now	25	25	45	0.001*
	Fixed Functional Appliances	65	22	5	
	Removable Appliances	20	13	15	
	Fixed Mechanotherapy	33	31	6	

4. Discussion

The study assessed knowledge and attitudes about early orthodontic treatment among general dentists, postgraduate students from other departments, and non-orthodontic specialists. Non-orthodontic specialists demonstrated the highest knowledge and awareness scores, followed by general dentists and postgraduate students from other departments. Factors such as years of clinical experience, discussions with specialists, interactions with other department specialists, and participation in Continuing Education programs (CDE) may have contributed to the higher scores among non-orthodontic specialists and general dentists.

In our study, we assessed the attitudes and knowledge of general dentists, postgraduate students from other departments, and non-orthodontic specialists based on their theoretical background and clinical experience. We also emphasized the need to raise awareness about early orthodontic treatment practices among general dentists and other specialists.

In the study by Acharya et al, the mean score of knowledge regarding the principles and practice of orthodontic treatment was found to be 13.47 for general dentists and 13.87 for non-orthodontic specialists. The results of the present study differ from those of Acharya et al's study.

5. Conclusion

Our study suggests the need to improve the knowledge and approach of general dentists, postgraduates from other departments, and non-orthodontic specialists towards orthodontic treatment. Continuing Education programs can help update practitioners and enhance patient care. Further studies with more participants from different geographical locations are necessary for broader applicability.

6. Source of Funding

None.

7. Conflict of Interest

None.

References

1. Management of the developing dentition and occlusion in pediatric dentistry. *Am Acad Pediatric Dent*, 2023:36(6)466-83.
2. Elyaskhil M, Shafai N.A.A., Mokhtar N. Effect of malocclusion severity on oral health-related quality of life in Malay adolescents. *Health Qual Life Outcomes*. 2021;19(1):71
3. Acharya A, Mishra P, Shrestha RM, Shah P: Orthodontic Treatment Knowledge among General Dentists and Non-orthodontic Specialists, *Orthod J Nepal,* 2019; 9(1):39-43.
4. Muhanad L. Alshami Nada K. Imran, Mustafa R. Abdurazaq, Krunal Narendra Kumar. Attitude and Knowledge of Orthodontics among General Dentists and Non-Orthodontic Specialists: A Questionnaire Based Survey. *Int J Dent Oral Sci*. 2020;7(9):814-9.
5. Brkanovi´c, S, Lapter Varga M, Meštrovi´c S. Knowledge and Attitude towards Orthodontic Treatment among Non-Orthodontic Specialists: An Online Survey in Croatia. *Dent J*. 2022;10;1-5.
6. Alshammari A.K., Alanazi A, Al-swedani H, Khan M, Ahmad S., Haque S. Knowledge and Perception of Orthodontic Treatment among General and Non-Orthodontic Dental Specialists: A Comparative Study. *Healthcare* 2023;11(3):340.
7. Soni UN, Baheti MJ, Dash S, Toshniwal NG, Baldawa RS. Knowledge and awareness of malocclusion among rural population in India. *Asian Pacific J Heal Sci.* 2014;1(4):329–34.
8. Ravichandran P. Parents knowledge and attitude of orthodontic treatment towards their school going children in Chennai - A Questionnaire Survey. *J Clin Dent Sci.* 2017;2(1):5–11.
9. Sastri MR, Tanpure VR, Palagi FB, Shinde SK, Ladhe K, Polepalle T. Study of the knowledge and attitude about principles and practices of orthodontic treatment among general dental practitioners and non-orthodontic specialties. *J Int Oral Heal*. 2015;7(3):44–8.
10. Berk NW, Bush HD, Cavalier J, Kapur R, Weyant RJ, Bush HD,. Perception of orthodontic tre*at*ment need: Opinion comparisons of orthodontists, pediatric dentists, and general practitioners. *J Orthod*. 2002;29(16):287–91.
11. Kapoor D, Bhatia S, Garg D. Assessment of the attitude and knowledge of the principles and practices of orthodontic treatment among the non-orthodontic specialists and general practitioner dentists. *J Nepal Med Assoc*. 2018;56(212):766–9.
12. Niveda S, Dinesh S. A survey of the knowledge, attitude and awareness of principles and practices in orthodontics among general dentists and non-orthodontic specialists*. J Dent Med Sci.* 2014;13(1):44–6.
13. Shrestha RM, Shrestha S, Kunwar N. Dentists in Nepal: A situation analysis. *J Nepal Health Res Counc.* 2017;15(2):187–92.
14. Alshammery D, Eid HA, Ajaji NA, Kazim S, Ayed LA. Level of awareness towards orthodontic treatment for medically compromised patients among dental practitioners in Saudi Arabia. *J Dent Heal Oral Disord Ther*. 2016;5(2):1–5.
15. Moshkelgosha V, Kazemi M, Pakshir H, Safari R. Parental knowledge and attitude towards early orthodontic treatment for their primary school children. *Iran J Orthod*. 2016;12(2):e7377.
16. Alnusayri MO, Kuraymalenazi KK, Patil SR, Aileni KR, Rao KA. Knowledge and attitude regarding principles and practices of orthodontic. *J Int Oral Health.* 2015;7(3):44-8.
17. Treatment among general dental practitioners and non-orthodontic specialists of Saudi Arabia: A preliminary study. *J Res Med Dent Sci*. 2017;5(3):59–62.
18. Siddegowda R, Rani M. An epidemiological survey on awareness towards orthodontic treatment in South Indian school children. *Open J Dent Oral Med.* 2013;1(1):5-8.
19. Klages U, Bruckner A, Zentner A. Dental aesthetics, self-awareness, and oral health-related quality of life in young adults*. Eur J Orthod*. 2004; 26:507
20. Rastogi S, Jatti R, Keluskar K. Assessment of Awareness and Social Perceptions of Orthodontic Treatment Needs in Adult Age Group: A Questionnaire Study. *J Oral Health Commun Dent*. 2014; 8(2):95.
21. Polychronopoulou A, Kawamura M. Oral self-care behaviours: comparing Greek and Japanese dental students. *Eur J Dent Educ*. 2005; 9(4):164-70.
22. Chew MT, Aw AKL. Appropriateness of orthodontic referrals: self-perceived and normative treatment needs of patients referred for orthodontic consultation. *Commun Dent Oral Epidemiol*. 2002;30(6):449-54.
23. Pietilä I, Pietilä T, Pirttiniemi P, Varrela J, Alanen P. Orthodontists' views on indications for and timing of orthodontic treatment in Finnish public oral health care. *Eur J Orthod*. 2008; 30(1):46-51.
24. Fleming P. Timing orthodontic treatment: early or late? Aust Dent J. 2017;62:11-9.
25. Grippaudo C, Pantanali F, Paolantonio EG, Saulle R, Latorre G, Deli R. Orthodontic treatment timing in growing patients. *Eur J Paediatr Dent*. 2013;14: 231-6.
26. Abdelkarim A, Jerrold L. Strategies for improved interdisciplinary care and communication in orthodontics. *Am J Orthod Dentofac Orthop*. 2017;152(5):717-21.
27. Joelijanto R. Oral habits that cause malocclusion problems. IDJ. 2012;1(2):80-8
28. Kamdar RJ, Al-Shahrani I. Damaging oral habits. *J Int Oral Health*. 2015;7: 85-7.
29. Baswaraaj JB, Kumarswamy K, Padmini M, Chandralekha B. Oral self-perception of esthetics among dental students*. Arch Oral Sci Res.* 2013;3:85-94.
30. Bittencourt, J.M.; Martins, L.P.; Bendo, C.B.; Vale, M.P.; Paiva, S.M. Negative effect of malocclusion on the emotional and social well-being of Brazilian adolescents: A population-based study. *Eur J Orthod.* 2017;39(6):628–33.
31. Shaw, W.C.; Addy, M.; Ray, C. Dental and social effects of malocclusion and effectiveness of orthodontic treatment: A review. *Commun Dent Oral Epidemiol*. 1980;8(1):36–45.
32. Aboalnaga A.A, Amer N.M, Elnahas M.O, Fayed M.M, ElDakroury AE, Labib A.H., Fahim F.H. Malocclusion and Temporomandibular Disorders: Verification of the Controversy. *J Oral Facial Pain Headache*, 2019:33:440–50.
33. Wedrychowska-Szulc, B.; Syry ´nska, M. Patient and parent motivation for orthodontic treatment—A questionnaire study. *Eur J Orthod*. 2010;32:447–52.
34. Chambers, D.W.; Zitterkopf, J.G. How people make decisions about whether or not to seek orthodontic care: Upstream in the treatment chain. *Am J Orthod Dentofac Orthop*. 2019;155:826–31.
35. Shaw W.C. Factors influencing the desire for orthodontic treatment. *Eur J Orthod.* 1981;3:151–62.
36. Gosney M.B. An investigation into some of the factors influencing the desire for orthodontic treatment. *Br J Orthod*. 1986;13(2):87–94.
37. Christensen L, Luther F. Adults seeking orthodontic treatment: Expectations, periodontal and TMD issues. *Br Dent J.* 218(3):111–7.
38. War, I.I. The number of adults seeking orthodontic treatment in the UK continues to rise. *Br Dent J.* 2018; 224(11):847.

Cite this article: Udayakumar S, Chidambaram SM, Nambi N, Saravanan K, Mani E. Knowledge and awareness on early skeletal malocclusion and treatment among general dentists, and non-orthodontic specialists: A questionnaire study. *J Contemp Orthod* 2025;9(2):231-238.